

⁽¹²⁾ UK Patent Application ⁽¹⁹⁾ GB ⁽¹¹⁾ 2 146 377 A

(43) Application published 17 Apr 1985

(21) Application No 8422680

(22) Date of filing 7 Sep 1984

(30) Priority data

(31) 1596/83 (32) 8 Sep 1983 (33) IE

(71) Applicant
John Clotworthy,
Garryknock, Castleknock, Co. Dublin, Republic of
Ireland

(72) Inventor
John Clotworthy

(74) Agent and/or address for service
Keith W. Nash & Co., 90—92 Regent St., Cambridge,
CB2 1DP

(51) INT CL⁴
E06B 1/34

(52) Domestic classification
E1J B
E1R 16

(56) Documents cited

GB A 2029481	GB 1526089
GB A 2018872	GB 1002243
GB 1571366	GB 0536943

(58) Field of search
E1J
E1R

(54) External secondary window panel arrangement

(57) A protective fitting 1 for a window opening 2 in the wall 3 of a building comprises a frame 4 with a peripheral flange 6 for engaging the exterior of the wall 3 around the opening 2. A portion 11 of the frame 4 accommodates a screening panel 12 in alignment with the window 16. A tapering wall portion 5 of the frame extends between the lip 6 and portion 11, so that the screening panel 12 is maintained at a spacing from the wall 3 while an air space is defined within the fitting between the screening panel and the window 16.

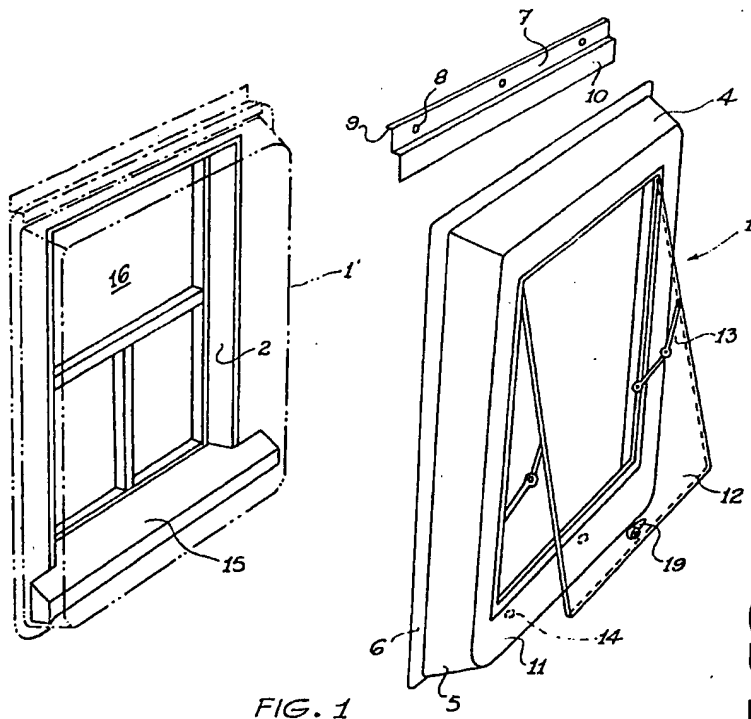
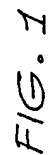


FIG. 1

GB 21463/1A

The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.



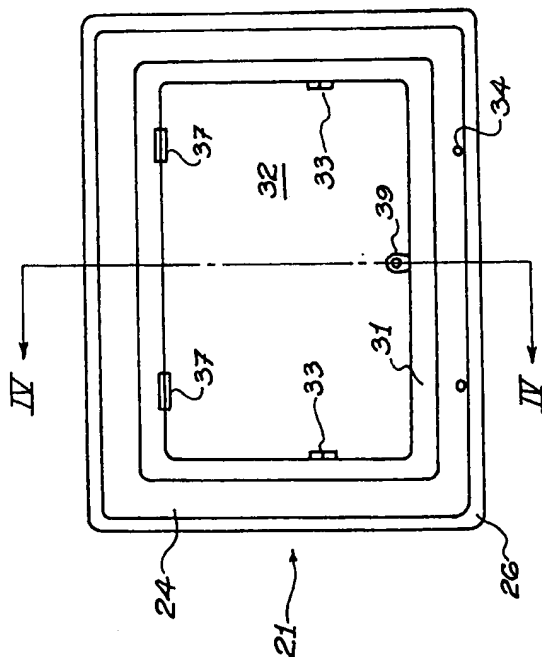


FIG. 2

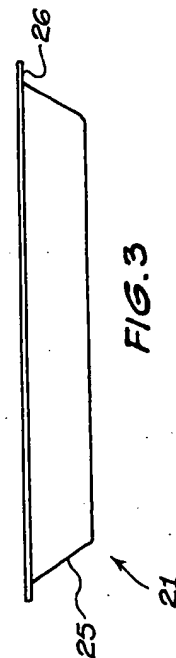


FIG. 3

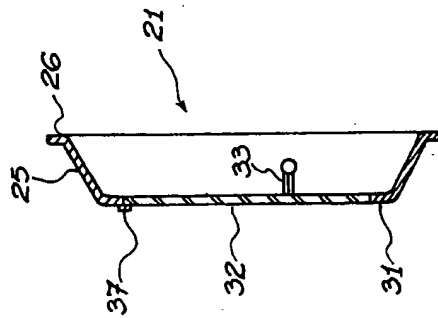


FIG. 4

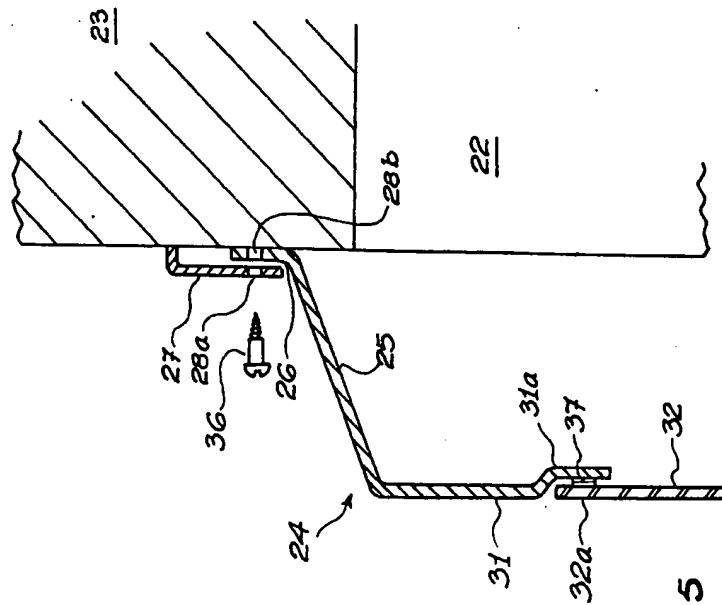


FIG. 5

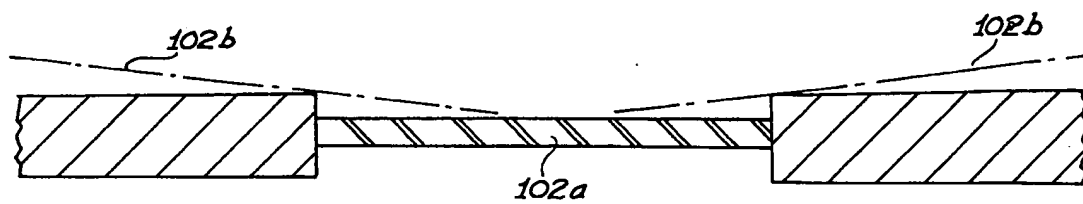


FIG. 9

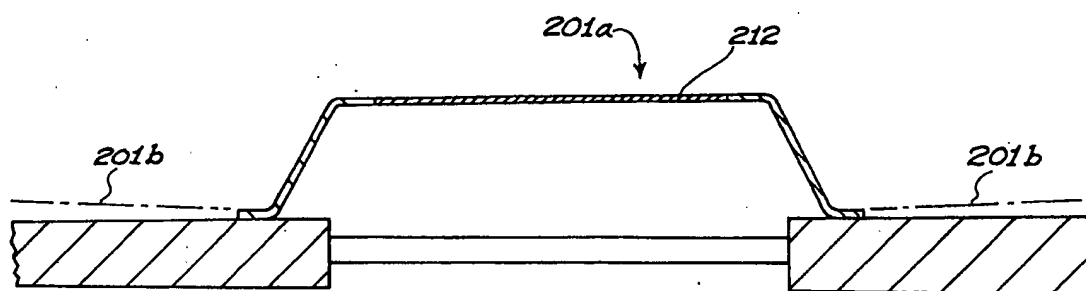


FIG. 10

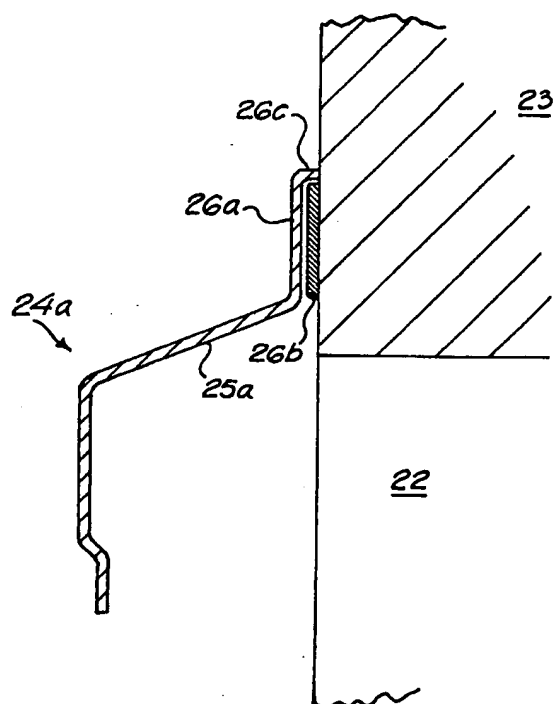


FIG. 5A

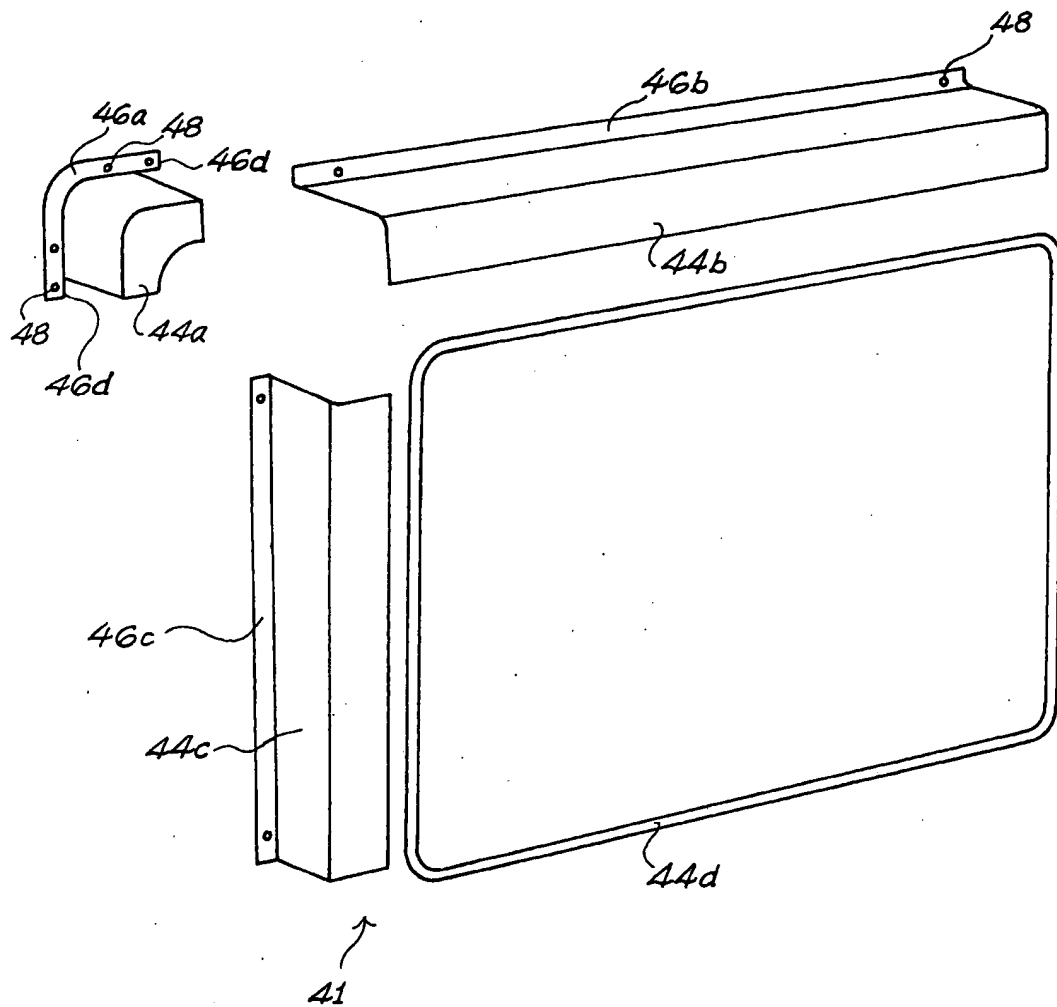


FIG. 6

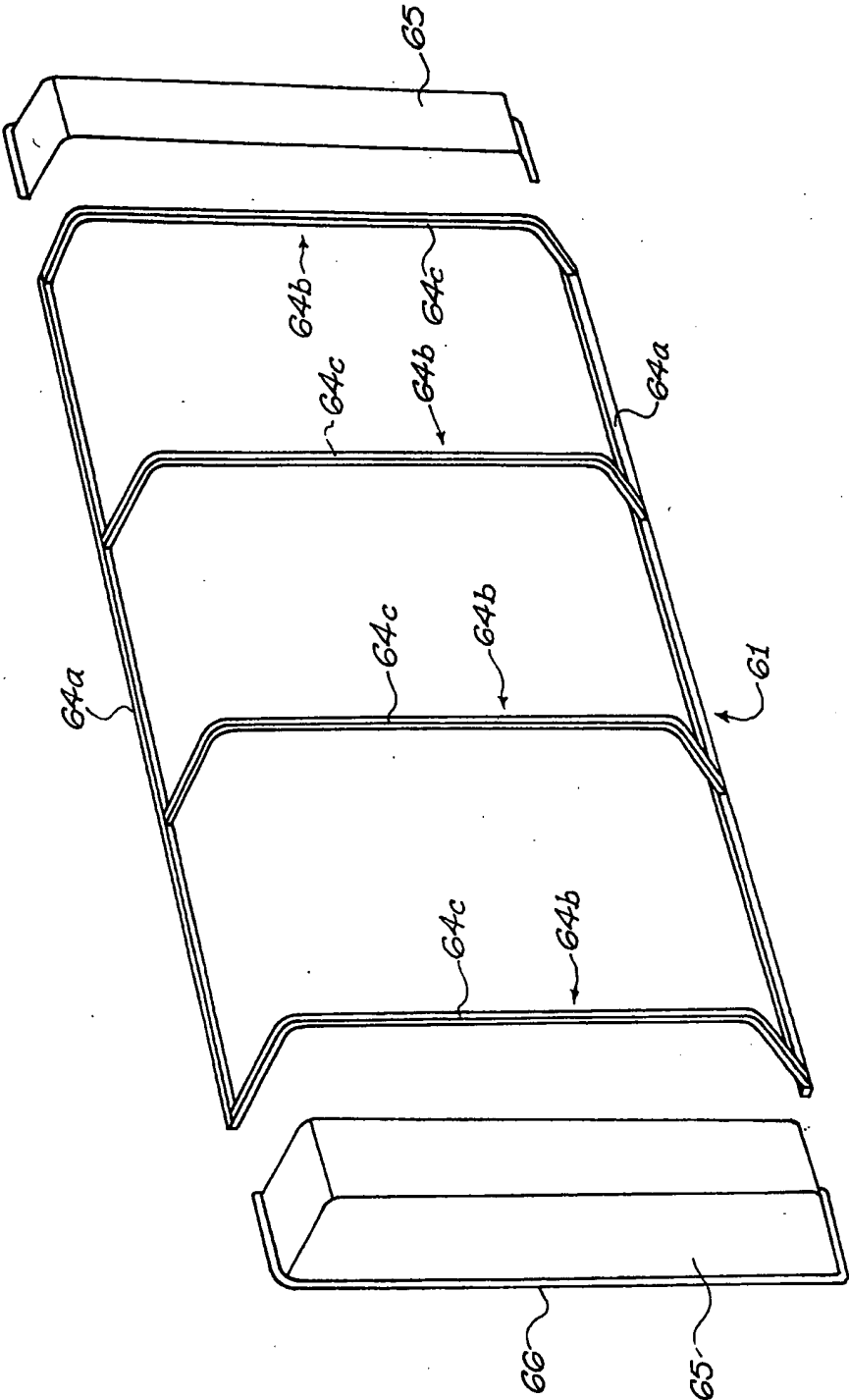


FIG. 7

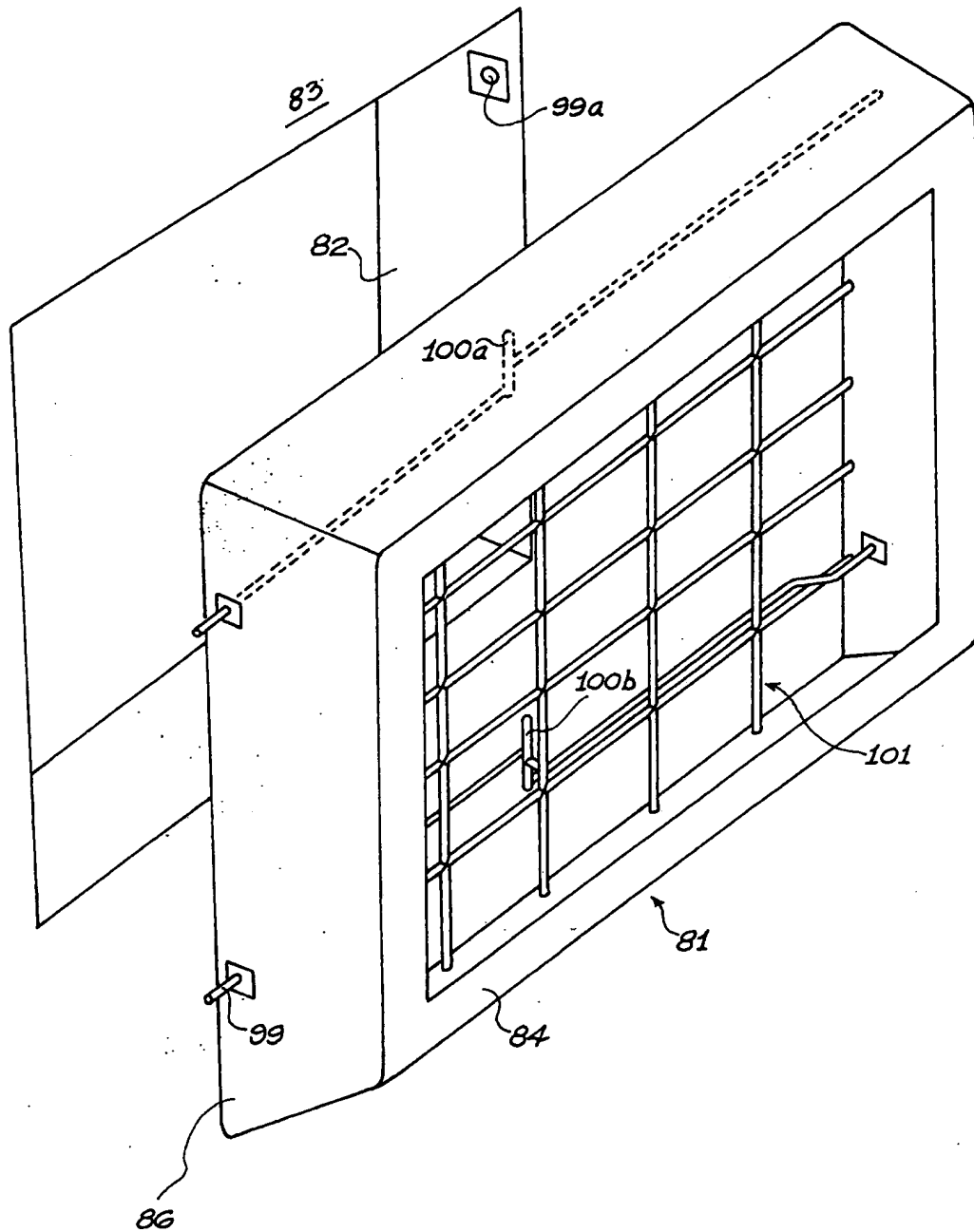


FIG. 8

SPECIFICATION

Window modules

This invention relates to window modules or fittings and in particular it relates to a protective fitting such as an external window or screen for fitting over an existing window accommodated in a window opening in a structural wall.

Continuing increases in the real price of heating energy have in recent years caused attention to be directed to an increasing extent to measures for improving the insulation of domestic houses and other buildings and reducing the heat loss from them. Traditional single-paned windows are a substantial source of heat loss in buildings, and accordingly much attention has been devoted to improving heat retention in this area. One well-known measure is the fitting of replacement double-glazed windows in place of the original single-paned units fitted in many existing houses. This is generally a costly solution and does not eliminate the problem of draughts arising out of faulty engagement of the opening wings in the frames in which they are mounted or heat loss through the actual frame. A further solution is the fitting of a separate internal window unit, generally of sliding construction, within the window opening and inside the building. This arrangement can be particularly effective for noise attenuation and the elimination of draughts, but the availability of the window sill for such purposes as supporting plants in pots is lost in many cases.

It is accordingly an object of the invention to provide a protective fitting for a window opening which will be suitable for external application to the opening without requiring either removal or modification of the existing windows. It is a further object of the invention to provide a fitting of this kind which when installed will leave the window opening substantially unaffected, so that the window sills in particular may continue to be used for purposes such as the support of window boxes or pot plants. Another object of the invention is the provision of a protective window fitting capable of easy installation and in particular, the provision of a fitting capable of ready adaptation at the location and time of use to the dimensions and circumstances of the window opening to which it is to be applied.

According to the invention, there is provided a protective fitting for a window opening in the wall of a building comprising a frame and at least one screening panel mountable in the frame, the frame having a peripheral edge portion for substantially engaging from the exterior a said wall in the region of the opening, a portion for accommodating the screening panel in substantial alignment in an outward direction away from the wall with at least the light transmitting elements of the window, and a wall portion extending substantially in said outward direction between said peripheral edge portion of the frame and said screening-panel-accommodating portion so that the screening panel may be maintained at a spacing from the external periphery of a window opening when the fitting is applied

thereto and an air space may be enclosed between said frame and screening panel of the fitting and the window of the opening.

Accordingly the protective fitting in effect forms an external window and the or each screening panel is most suitably a light-transmitting element such as a transparent pane. Preferably said at least one screening panel is displaceable relative to the frame in which it is mountable so that the outer window formed by the fitting when the screening panel is a transparent pane may be opened as required for ventilation of the building and also of the air space defined inside the fitting itself. The screening panel or panels may be formed from glass or from a vandal-proof plastics material such as Lexan (Trade Mark).

In an alternative construction the screening panel may be for example, formed from wire mesh. In a particularly preferred arrangement, the or each screening panel is interchangeably mountable in the frame of the protective fitting so that for example, a glass panel for winter use may be readily removed and replaced by a mesh screen for summer use. In a further arrangement an additional screening panel may be mountable in the frame intermediate said at least one screening panel of the fitting and the window in the opening to which the fitting is applied.

At least a portion of the frame of the protective fitting may suitably be produced by vacuum forming. A preferred material for this purpose is perspex. The wall portion of the vacuum-formed frame or frame portion of the fitting then preferably tapers inwardly of the frame along its extent in said outward direction away from the peripheral edge portion which engages the wall when the fitting is applied to the window opening. This not only facilitates manufacture but results in a pleasing appearance of the fitting. At the outer edge of the tapered wall portion, the screening-panel-accommodating portion of the frame then preferably extends substantially transverse to said outward direction and thus substantially parallel to the outer surface of the wall in the region thereof in which the window opening to which the fitting is applied is defined. The screening panel may be mounted in this frame portion at a stand-off of the order of six inches from the plane defined by the outer surface of the wall in the region of the window opening.

The peripheral edge portion of the frame may be or include a laterally outwardly directed lip, extending substantially parallel to the plane of the outer surface of the wall in the region of the window opening to which the fitting is applied and in a direction away from the window opening. The fitting may then be secured to the wall by means of an elongate strip which is fastened to the wall by suitable means such as screws or wall-bolts and has a longitudinal flange or lip for engaging the lip on the edge of the fitting frame. In another aspect the present invention also provides an assembly including a protective fitting as defined hereinabove together with one or more elongate securing strips of this type.

The frame may be of modular construction and made up of a plurality of elongate edge pieces extending between, and joined together in the assembled condition of the fitting by, moulded or vacuum-formed corner pieces. In a further modular construction elongate edge pieces may be bridged and joined together by transverse end pieces of the frame and may also be bridged intermediate these end pieces by one or more generally U-shaped transverse frame members.

The perspex of the fitting frame may be transparent but it is preferred that it should be coloured. A suitable colour is brown, but other colours or combinations of colours may also be selected. The outwardly extending wall portion of the frame is preferably provided with drain holes in a lower region to permit egress of any water accumulating inside the frame.

According to another aspect, the invention also provides a kit of parts suitable for assembly to provide a fitting according to the aspects of the invention recited hereinabove, while in a still further aspect of the present invention, there is provided a protective fitting for external application to a window opening in a structural wall comprising a frame having a peripheral edge portion for substantially engaging the structural wall in the region of the window opening when applied to the opening and a wall portion which extends substantially outwardly from said peripheral edge portion, at least one screening panel being mountable in the frame in substantial alignment in an outward direction with at least the light transmitting elements of the window.

Embodiments of the invention will now be described having regard to the accompanying drawings, in which

Figure 1 is a pictorial view of a protective fitting according to the invention and its mode of application to a window opening in a wall of a building,

Figure 2 is an elevation view of a fitting generally similar to that of Figure 1, but omitting wall fixing and hinging details,

Figure 3 is a plan view of the fitting of Figure 3,

Figure 4 is a sectional view of the fitting of Figure 2 on the line IV—IV of Figure 2,

Figure 5 is a detail of a wall fixing arrangement for the fitting of Figures 2 to 4,

Figure 5A shows an alternative arrangement for sealing engagement of the peripheral lip portion of the frame against a wall,

Figure 6 is an exploded pictorial view of part of the frame of a multi-part plastics module or fitting according to the invention,

Figure 7 is an exploded view of the frame of a multi-part module or fitting according to the invention formed from metal extrusions and plastics mouldings,

Figure 8 is a pictorial view of a module or fitting according to the invention which provides for escape from a building in emergency conditions,

Figure 9 indicates in schematic form, the effective sunlight available to a normal window, and

Figure 10 shows the effective sunlight available to

a window fitted with a unit according to the invention.

As shown in Figure 1, a protective module or fitting 1 according to the invention for application to a window opening 2 in the wall 3 of a building, which may be a structural wall, has a substantially rectangular frame 4 which is of a size sufficient to completely surround the window opening 2 together with the window sill 15. The frame 4 is a vacuum formed unit, made from perspex material, and has a wall portion 5 which extends outwardly from the structural wall 3 in a direction away from the structural wall and tapers inwardly of the frame along the extent of the wall portion in said outward direction, the transverse dimensions of the frame across or over its wall portion 5 being greatest at the regions of this wall portion adjacent the structural wall 3. In this region, the frame 4 has a peripheral lip 6, which extends generally transversely or laterally from and relative to the wall portion 5 of the frame and abuts against the structural wall 3 surrounding the window opening when the fitting is applied thereto so that it also then extends transversely outward from the window opening. The position of the fitting when applied to the window opening 2 is indicated in ghost outline at 1'. The frame may be held in position on the structural wall 3 by screws or other fastening means passing directly through the lip 6 and engaging in the wall but a preferred means for securing it to the structural wall is the elongate clamping member 7 shown in Figure 1. This is of generally Z-shaped configuration, screw holes 8 being provided in one free end limb of the Z for fastening the member 7 to the structural wall. This limb is also provided with a small turned-over edge or lip 9 to minimise moisture penetration behind the clamping element when it is secured to the structural wall. The other free end limb 10 of the clamping element 7 overlaps the lip 6 of the frame 4 along one of its sides and accordingly holds the frame in position. A clamping element 7 is most suitably provided along each side of the generally rectangular frame 4. The frame is thus held securely in position on the structural wall along all four of its sides. A sealing compound or strip may be interposed between the lip 6 and the wall to minimise penetration of rain or other nuisances.

At the edge of the wall portion 5 of the frame remote from the lip 6, the frame has a further wall portion 11 which extends substantially parallel to the plane of the window and structural wall 3. This frame portion accommodates a screening panel 12, which as shown in Figure 1 is a glass or transparent plastics panel. Panel 12 is hinged to the frame 4 at its upper edge and folding bracket arms 13 allow it to be positioned in a partly opened condition to ventilate the interior of the building and also the air space defined between the fitting 1 and the window. Because of the top-hinged arrangement of the pivoting panel 12, the amount of penetration by rain into the space within the frame should be relatively small or even non-existent. However to ensure that any rain or other water accumulating inside the frame 4 may readily flow away, drain holes 14 are provided in the wall portion 5 of the frame along its

lower run. A catch 19 provided in the centre of the lower edge of screening panel 12 permits the screening panel to be locked in a closed condition. The frame 4 of the fitting 1 may be formed as shown in Figure 1 in particular as an integral vacuum-formed or moulded unit, the wall portions 5 and 11 being continuous with each other and lip 6 extending integrally from wall portion 6.

The panel 12 is preferably removable and can be replaced in summer by a mesh screen, brackets 13 being disconnected for this purpose. Alternatively a mesh screen may be fitted in the interior of the unit, without removal of the transparent panel 12, between panel 12 and the window. The stand-off between the wall portion 11 and the outer surface of the structural wall surrounding the window opening is preferably approximately 6 inches, but other sizes and depths for the fitting of the invention may be chosen depending on the shape and other dimensions of the window opening itself, as well as the stand-off required to clear the sill 15.

The protective fitting according to the invention has a number of particular advantages. When fitted with a solid panel 12, such as a pane of glass, it eliminates many of the draughts experienced through and around an unprotected window. With the fitting of the invention in position, the window 16 within the opening can be left open in bad weather, with the panel 12 also left slightly ajar. Rain cannot penetrate to the window 16 to any significant extent and most if not all of such rain as does pass inside the frame 4 will run out again through the drain holes 14. With a mesh screen in place, either in substitution of the panel 12 or in addition to it, cats or other animals cannot enter through the window, and with a sufficiently fine screen, many insects may also be excluded. Where the frame of the window 15 is of wood, installation of the fitting according to the invention allows a reduction in maintenance expenditure on the woodwork. Where the protective unit is fitted by means of clamping elements 7, the complete protective fitting may be readily removed, if necessary or desirable, for example, for building maintenance or during the summer.

It is a particular advantage of the unit according to the invention that both the internal and external window sill spaces remain available for uses such as accommodating house plants. This may not always be achieved in the case of some forms of existing secondary glazing units. The fitting of the invention may also find application in noisy environments, where the wide spacing between the window 16 and the panel 12 will lead to effective noise attenuation.

The embodiment of the protective module or fitting according to the invention shown in Figures 2, 3 and 4 is generally similar to the unit of Figure 1, but the fitting is of different shape. The fitting is identified by the numeral 21, the frame is indicated by 24, the tapering wall portion of the frame by the numeral 25 and the peripheral lip of the frame by 26. Figure 5 shows an enlarged view of a portion of the frame 24 and its mode of fixing to the structural wall 23 surrounding the window opening 22. An

elongate clamping member 27 of substantially L-

shape is secured to the wall 23 by screws 36 passing through screw-holes 28a and 28b provided both in the clamping member 27 itself and also in the peripheral lip 26 of the frame 24 respectively and the longer leg of the L engages over the peripheral lip 26 of the frame to hold the fitting in position. The shorter leg of the L then engages against the outer surface of the wall along the free edge of the leg to minimise water penetration behind the clamping member.

As also shown in Figure 5, the inner edge region of the wall portion 31 of the frame 24 which extends generally parallel to the face of the structural wall 23 is slightly recessed inwardly towards the structural wall 23 at its free edge to accommodate the screening panel 32, as indicated at 31a. The screening panel is hinged to the wall portion 31 along the upper edge 32a of the panel and in its closed position, this edge 32a engages in the recessed region 31a along the edge of the upper run of wall portion 31 in a substantially sealing manner, while the side edges and the bottom edge of the panel 32 engage similarly in the recessed edge regions of the side and bottom runs of the wall portion 31. The hinges 37 are indicated schematically only in the less detailed Figures 2 and 4, which also omit the sealing recess 31a in wall portion 31. Folding brackets which support the panel 32 in its partially open condition are indicated by reference 33 while numeral 39 refers to a catch for locking the panel 32 in the closed condition. Brackets 33 are preferably disconnectible so that the entire panel 32 can be removed completely as required.

In an alternative arrangement for sealing engagement of the peripheral edge or lip 26a of a fitting 24a to a structural wall 23 shown in Figure 5A, the lip 26a is fastened directly to the wall by screws passing through pre-drilled holes in the lip. A sealing strip 26b is engaged between the lip 26a and the surface of the wall and is squeezed between the lip and the wall when the securing screws are tightened up so that the frame is sealed against the wall around the periphery of the window opening 22 and the ingress of moisture is minimised. The lip 26a also has a turned over rim 26c at its free edge which projects towards the wall 23 from the frame and extends over and embraces the outermost edge of the sealing strip 26b, to help to retain it in position within the periphery of the frame wall portion and ensure that when squeezed, it does not project laterally outwardly of the frame.

The constructions of the fitting according to the invention shown in Figures 6 and 7 facilitate the manufacture of the fitting in larger sizes to suit larger windows. These modes of construction may also be applied on a modular basis to facilitate the provision of fittings according to the invention for different sizes of window, using a relatively limited range of substantially standard component parts provided as a kit of parts for assembly by the user at the location and time of installation.

As shown in Figure 6, the frame of the fitting 41 according to the invention is assembled from four corner joining pieces 44a, which may be either

vacuum formed or otherwise moulded from plastics material, and from elongate extruded edge pieces 44b and 44c, the former being a top edge piece and the latter a side edge piece. The edge pieces may be

5 moulded, extruded, or vacuum formed from plastics material. The edge pieces may also be extruded in a continuous length from which suitable portions are cut to fabricate the fitting according to the invention. The plastics edge pieces and corner joining pieces

10 may be moulded in clear or coloured plastics material. A flexible extrusion provided with a sealing strip of suitable material, or the sealing strip 44d alone, is then applied to the inner edges of the fitting when assembled, to receive the screening panel or panels in a sealing manner, or the flexible

15 extrusion or sealing strip may be applied to the panel or panels. In an alternative arrangement, flexible extrusions or sealing strips of this kind may be applied to both the frame and the screening panels. This embodiment of the invention is especially suited in its larger sized assemblies to accommodating a plurality of screening panels in a laterally disposed array, rather than the single screening panel shown in the previous Figures. Lips

20 46a, 46b and 46c on parts 44a, 44b and 44c respectively facilitate fastening the assembled fitting to the structural wall. The lips 46a of corner pieces 44a have extension portions or lugs 46d extending beyond the lateral edges of parts 44a, these lugs 46d overlapping the end regions of lips

30 46b and 46c of parts 44b and 44c when the fitting is assembled so that the component parts 44a and 44b and 44a and 44c may be secured together, for example by screws or other fasteners passing through or engaging in respective aligned screw

35 holes 48 in lugs 46d and the ends of lips 46b and 46c of parts 44b and 44c. Alternatively the fittings may be held in an assembled condition by means, for example, of plastics welding or a suitable adhesive compound or other adhesive means.

40 In the arrangement shown in Figure 7, aluminium extrusions are employed to provide a modular construction of fitting 61 according to the invention. Aluminium edge pieces 64a extending along the top

45 and bottom of the fitting are bridged by vertically extending frame members 64b having major portions 64c which substantially define in the assembled fitting a plane outwardly spaced from that defined by the edge pieces 64a. The members

50 64b are thus in the shape of a very shallow U having a broad base bar. The lateral ends of the fitting are closed off by perspex vacuum-formed end pieces 65, which are secured to the aluminium framework, and the assembled fitting is then secured to the wall

55 in a manner similar to that already described for the unitary embodiments. This construction of the fitting according to the invention allows it to be applied to virtually any size of window or opening, by assembling a suitably selected set of

60 components, cut as necessary to provide sections of the correct length. As in the case of the embodiment of Figure 6, the various component parts of the fabricated fitting may be connected together by fasteners or other suitable bonding means. Lips 66

65 allow at least the end parts 65 to be clipped to a

structural wall and similar lips or other suitable means may also be provided on the longitudinal members 64a. As in the case of the embodiment of Figure 6, this construction is especially suited to the

70 provision of the component parts of the fitting in kit form, to be assembled at the location and time of use and optionally also cut to size or otherwise adjusted in size at this time and location also.

Where the fitting of the invention according to any

75 of its embodiments encloses the window sill, as is preferred for installations incorporating fittings according to the invention, a wire rope or similar fire escape ladder may be affixed permanently in position on the wall immediately below the sill and enclosed within the protective fitting. In any

80 installation having a fitting according to the invention, whether or not enclosing a sill, the flexible fire escape means or ladder may in any case be accommodated within the actual window space or opening. The ladder may be of sufficient length to reach the ground, or in the case of multi-storey buildings, the ladder may reach to a window below that at which it is mounted, and a key may be provided so that a person making use of the ladder

90 may open the protective fitting and for example the window immediately below his own window or a still lower window, when making use of the escape ladder, and then use the ladder associated with that lower window to descend further to another

95 window or the ground, as required, or to enter the building via the lower window. The protective fitting of the invention allows the ladder to be stored neatly within the space enclosed by the fitting and accordingly out of sight in the normal way, thus improving the appearance of the building.

100 In order to provide ready access to the fire escape ladder, the fitting of the invention may be fully detachable from the window opening or alternatively a detachable portion may be provided in it.

For example, the screening panel hinges may be of a quick lift-off pattern, so that ready removal of this panel is possible when required in an emergency. An arrangement in which a fitting 81 is

110 fully detachable is shown in Figure 8, and may be used with a fire escape ladder mounted as described above but not shown in this Figure, or for protection of a window or opening at ground floor level, from which direct evacuation may take place to the exterior of the building. Such fittings may also be associated with or provide egress to conventional fire escape ladders. In the embodiment of Figure 8, the frame 84 has no lip but its peripheral edge region 86 engages the structural wall within the

115 outer edge of the window opening 82 and the fitting is provided with lever operated bolts 99 which engage in receivers 99a in the sides of the window opening 82 on manual operation of levers 100a and 100b. The complete protective fitting can thus be ejected by moving levers 100a and 100b to their release positions, allowing easy access to the fire escape ladder or to the exterior of the building, in the case that the fitting is applied to a window substantially at ground level. To prevent injury to

120 people below the building when the fitting is

130

detached, the protective fitting may be connected by a chain or rope or hinges to the wall or the window opening so that when it is ejected it is not fully detached from the building but remains suspended by said chain or rope or hinges. The lever mechanisms 100a and 100b may be fitted with locks which are released by normal fire keys.

As already mentioned, the fitting according to the invention may include screens to prevent entry by animals or insects. In similar manner it may include a grille to provide extra protection against illicit entry. Such a grille may be fitted over the existing windows within the window opening and the protective fitting of the invention is then applied over both the window opening and the grille. This substantially prevents the appearance of the building from being impaired by the grilles. In cases where security is a problem and grilles are required, but it is also necessary to provide for ready escape from the building, the grille may be included in the protective fitting itself and the fitting with grille can be fully detachable from the building. Such a built-in protective grille 101 is shown in the fitting of Figure 8, the detachment of this fitting in an emergency having already been explained. The grille 101 where provided, may also provide support and guidance for the extensions of the locking bolts 99 by which these bolts are operably coupled to the operating levers 100a and 100b.

A particular advantage of the invention is the reduction in heat loss through the window 16 in cold weather. In addition the protective fitting according to the invention forms a miniature conservatory, the effect of which is illustrated in Figures 9 and 10. Figure 9 shows a conventional window 102a and lines 102b delimiting the boundaries of the effective maximum angle of impingement of sunlight on the window 102a. In Figure 10, the fitting 201a with a transparent screening panel 212 is exposed to sunlight impinging over an angle extending between the lines 201b. It will be seen that the heat gathering capacity of the protective fitting according to the invention is enhanced compared with a conventional window not only by virtue of the enlarged angle over which sunlight is received by the screening panel but also in that the actual heated area of the fitting 201a greatly exceeds that of the unprotected window, the heat conducting frame of the fitting being warmed and transmitting heat to the air space enclosed by the fitting as well as heating of this air space taking place by radiant heat passing through the transparent screening panel. The miniature conservatory thus formed may be used to house window plants. The additional heat retained or collected as a result of the presence of the fitting, especially when it is fitted with a transparent screening panel maintained in a closed condition, may be transferred through the window pane to the interior of the building by conduction or alternatively through the open window by convective air flow, if it is desired to provide additional heat to the space within the building. In addition to the enhanced retention of heat achieved by the fitting of the invention, a further advantage of the invention is that the amount of actual direct

sunlight passing through the window may also be cut down, thus leading to a reduction in the fading of carpets, curtains and the like within the building itself, despite the improved overall heat recovery.

The fitting of the invention may also be provided with means associated with or incorporating heat sensitive or other controls, optionally motorised, for opening and closing the screening panels or grilles when specified or predetermined temperature or time conditions prevail, and also for opening or closing the existing window when required, so that the heat retrieved by the fitting may be usefully employed within the building at appropriate times or in suitable conditions, and also for permitting excess heat within the building to escape to the exterior of the building, when necessary or when suitable circumstances prevail. Such means may use motorised fans or natural convection.

The fitting of the invention also provides enhanced protection for the glass of the window itself, if stones or other missiles are thrown towards it. These impact against the perspex or plastics of the fitting, which is less prone to shattering than glass, and even if a missile penetrates the outer fitting, much of its momentum will have been lost so that its potential for damaging the glass of the window will be greatly reduced. The improved sealing of the window against the outer environment may also provide enhanced protection against shock waves such as those produced by explosions, whether for peaceful purposes such as quarrying, or in wartime.

A brown colour is preferred for the frame of the fitting according to the invention in temperate climates but white material may be used in the tropics, to reflect a greater proportion of the incident heat and thereby actually keep the temperature within the building down during daylight hours. At night, when the temperature drops, the fitting may serve to enhance retention of heat within the building. The coloration of the frame may also prevent direct sunlight impinging on window air-conditioning units where fitted, and thus improve the efficiency of operation of such units.

In some circumstances the fitting of the invention may permit the total removal of the conventional window within the window opening. In this event the protective fitting must generally be sealed to the window opening or to the structural wall surrounding the window opening in a particularly effective manner. A lower quality of window may however be provided for a window opening fitted with a protective unit according to the invention as an alternative to completely dispensing with the inner window, for example a clip-in window unit which is readily removable for cleaning or access to the exterior of the window opening from inside the building.

Claims

1. A protective fitting for a window opening in the wall of a building comprising a frame and at least one screening panel mountable in the frame, the frame having a peripheral edge portion for

- substantially engaging from the exterior a said wall in the region of the opening, a portion for accommodating the screening panel in substantial alignment in an outward direction away from the wall with at least the light transmitting elements of the window, and a wall portion extending substantially in said outward direction between said peripheral edge portion of the frame and said screening-panel-accommodating portion so that the screening panel may be maintained at a spacing from the external periphery of a window opening when the fitting is applied thereto and an air space may be enclosed between said frame and screening panel of the fitting and the window of the opening.
2. A protective fitting according to Claim 1, wherein said at least one screening panel is displaceable relative to the frame.
3. A protective fitting according to Claim 1 or 2, wherein the or each screening panel is interchangeably mountable in the frame.
4. A protective fitting according to any of Claims 1 to 3, wherein a further screening panel is mountable in the frame between said at least one screening panel and the window of an opening to which the fitting is applied.
5. A protective fitting according to any of Claims 1 to 4, wherein said wall portion of the frame tapers inwardly of the frame along its extent in said outward direction away from the wall of the building.
6. A protective fitting according to any of Claims 1 to 5, wherein the screening-panel-accommodating portion of the frame extends substantially transverse to said outward direction so that this frame portion may be disposed substantially parallel to the outer surface of the wall of a building in the region thereof in which a window opening to which the fitting is applied is defined.
7. A protective fitting according to any of Claims 1 to 6, wherein said peripheral edge portion of the frame includes a lip extending substantially laterally outwardly of the frame so that said lip may be disposed substantially parallel to the plane of the outer surface of the wall of a building in the region of a window opening to which the fitting is applied.
8. A protective fitting according to any preceding claim, wherein the frame is of modular construction and includes a plurality of elongate edge pieces extending between corner pieces.
9. A protective fitting according to any of Claims 1 to 7, wherein the frame is of modular construction and includes elongate longitudinal edge pieces bridged by transverse end pieces.
10. A protective fitting according to Claim 9, wherein said longitudinal edge pieces are further bridged by one or more generally transverse frame members of shallow substantially U-shape.
11. An assembly comprising a protective fitting according to any preceding claim and at least one elongate securing strip fastenable to a wall and having a longitudinal flange for engaging the peripheral edge portion of the frame of the fitting.
12. A kit of parts suitable for assembly to provide a protective fitting according to any preceding claim.
13. A kit of parts comprising a protective fitting according to any of Claims 1 to 10 and one or more elongate securing strips, the or each of which is fastenable to a wall and has a longitudinal flange for engaging the peripheral edge portion of the frame of the fitting.
14. A protective fitting for external application to a window opening in a structural wall comprising a frame having a peripheral edge region for substantially engaging the structural wall in the region of the window opening when applied to the opening and a wall portion which extends substantially outwardly from said peripheral edge portion, at least one screening panel being mountable in the frame in substantial alignment in an outward direction with at least the light transmitting elements of the window.
15. A protective fitting for a window opening in a wall of a building substantially as described herein with reference to or as shown in Figure 1, Figures 2, 3, 4 and 5, Figures 2, 3, 4 and 5 as modified by Figure 5A, Figure 6, Figure 7 or Figure 8 of the accompanying drawings.
16. A kit of parts suitable for assembly to provide a protective fitting for a window opening in the wall of a building substantially as described herein with reference to or as shown in Figure 1, Figures 2, 3, 4 and 5, Figures 2, 3, 4 and 5 as modified by Figure 5A, Figure 6, Figure 7 or Figure 8 of the accompanying drawings.